

made by the comminution of greater transparent Crystalline bodies, but by the *concretion* or *coagulation* of Water, or some other fluid body.

There are other kinds of courser Sands, which are browner, and have their particles much bigger; these, view'd with a *Microscope*, seem much courser and more *opacous* substances, and most of them are of some irregularly rounded Figures; and though they seem not so *opacous* as to the naked eye, yet they seem very foul and cloudy, but neither do these want curiously transparent, no more than they do regularly figur'd and well colour'd particles, as I have often found.

There are multitudes of other kinds of Sands, which in many particulars, plainly enough discoverable by the *Microscope*, differ both from these last mention'd kinds of Sands, and from one another: there seeming to be as great variety of Sands, as there is of Stones. And as amongst Stones some are call'd precious from their excellency, so also are there Sands which deserve the same Epithite for their beauty; for viewing a small parcel of *East-India* Sand (which was given me by my highly honoured friend, Mr. *Daniel Colwall*) and, since that, another parcel, much of the same kind, I found several of them, both very transparent like precious Stones, and regularly figur'd like Crystal, *Cornish* Diamants, some Rubies, &c. and also ting'd with very lively and deep colours, like *Rubys*, *Saphyrs*, *Emeralds*, &c. These kinds of granuls I have often found also in *English* Sand. And 'tis easie to make such a counterfeit Sand with deeply ting'd Glafs, Enamels and Painters colours.

It were endless to describe the multitudes of Figures I have met with in these kind of minute bodies, such as *Spherical*, *Oval*, *Pyramidal*, *Conical*, *Prismatical*, of each of which kinds I have taken notice.

But amongst many others, I met with none more observable than this pretty Shell (described in the *Figure X.* of the fifth *Scheme*) which, though as it was light on by chance, deserv'd to have been omitted (I being unable to direct any one to find the like) yet for its rarity was it not inconsiderable, especially upon the account of the information it may afford us. For by it we have a very good instance of the curiosity of Nature in another kind of Animals which are remov'd, by reason of their minuteness, beyond the reach of our eyes; so that as there are several sorts of Insects, as Mites, and others, so small as not yet to have had any names; (some of which I shall afterwards describe) and small Fishes, as Leeches in Vineger; and smal vegetables, as Moss, and Rose-Leave-plants; and small Mushrooms, as mould: so are there, it seems, small Shel-fish likewise, Nature shewing her curiosity in every Tribe of *Animals*, *Vegetables*, and *Minerals*.

I was trying several small and single Magnifying Glasses, and casually viewing a parcel of white Sand, when I perceiv'd one of the grains exactly shap'd and wreath'd like a Shell, but endeavouring to distinguish it with my naked eye, it was so very small, that I was fain again to make use of the Glafs to find it; then, whilest I thus look'd on it, with a Pin I separated all the rest of the granules of Sand, and found it afterwards to appear to the naked eye an exceeding small white spot, no bigger than the point of a Pin.

Pin. Afterwards I view'd it every way with a better *Microscope*, and found it on both sides, and edge-ways, to resemble the Shell of a small Water-Snail with a flat spiral Shell: it had twelve wreathings, *a, b, c, d, e*, &c. all very proportionably growing one less than another toward the middle or center of the Shell, where there was a very small round white spot. I could not certainly discover whether the Shell were hollow or not, but it seem'd fill'd with somewhat, and 'tis probable that it might be petrify'd as other larger Shells often are, such as are mention'd in the seventeenth *Observation*.

Observ. XII. Of Gravel in Urine.

I Have often observ'd the Sand or Gravel of Urine, which seems to be a *tartareous* substance, generated out of a *saline* and a *terrestrial* substance crystalliz'd together, in the form of *Tartar*, sometimes sticking to the sides of the *Urinal*, but for the most part sinking to the bottom, and there lying in the form of coarse common Sand; these, through the *Microscope*, appear to be a company of small bodies, partly transparent, and partly *opacous*, some White, some Yellow, some Red, others of more brown and duskie colours.

The Figure of them is for the most part flat, in the manner of Slats, or such like plated Stones, that is, each of them seem to be made up of several other thinner Plates, much like *Muscovite Glafs*, or *English Sparr*, to the last of which, the white plated Gravel seems most likely; for they seem not onely plated like that, but their sides shap'd also into *Rhombs*, *Rhomboeids*, and sometimes into *Rectangles* and *Squares*. Their bigness and Figure may be seen in the second *Figure* of the sixth *Plate*, which represents about a dozen of them lying upon a plate *ABCD*, some of which, as *a, b, c, d*, seem'd more regular than the rest, and *e*, which was a small one, sticking on the top of another, was a perfect *Rhomboeid* on the top, and had four *Rectangular* sides.

The line *E* which was the measure of the *Microscope*, is $\frac{1}{2}$ part of an *English* Inch, so that the greatest bredth of any of them, exceeded not $\frac{1}{28}$ part of an Inch.

Putting these into several liquors, I found *Oyl of Vitriol*, *Spirit of Urine*, and several other *Saline menstrums* to dissolve them; and the first of these in less than a minute without *Ebullition*, Water, and several other liquors, had no sudden operation upon them. This I mention, because those liquors that dissolve them, first make them very white, not *vitiating*, but rather rectifying their Figure, and thereby make them afford a very pretty object for the *Microscope*.

How great an advantage it would be to such as are troubled with the Stone, to find some *menstruum* that might dissolve them without hurting the Bladder, is easily imagin'd, since some *injections* made of such bodies might likewise dissolve the stone, which seems much of the same nature.

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